

## **SQA Advanced Unit specification**

### **General information**

**Unit title:** CAD: Graphical Design (SCQF level 7)

**Unit code:** HV1H 47

**Superclass:** CH

**Publication date:** November 2017

**Source:** Scottish Qualifications Authority

**Version:** 01

### **Unit purpose**

This Unit is designed to introduce learners to design-oriented software and enable them to develop graphical design techniques while working to a design brief. The Unit also provides the learner with the opportunity to investigate some of the advantages and disadvantages of both bit-mapped and vector graphics formats.

### **Outcomes**

On successful completion of the Unit the learner will be able to:

- 1 Produce a design concept to meet the specifications of a given brief.
- 2 Produce a completed design solution to a given brief.

### **Credit points and level**

1 SQA Credit at SCQF level 7: (8 SCQF credit points at SCQF level 7)

### **Recommended entry to the Unit**

Access is at the discretion of the centre, however it would be beneficial if the learner possesses some computing and graphical design skills. This may be evidenced by possession of a Higher in Graphical Communication and/or equivalent.

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### **Core Skills**

Opportunities to develop aspects of Core Skills are highlighted in the Support Notes for this Unit specification.

There is no automatic certification of Core Skills or Core Skill components in this Unit.

### **Context for delivery**

If this Unit is delivered as part of a Group Award, it is recommended that it should be taught and assessed within the subject area of the Group Award to which it contributes.

The Assessment Support Pack (ASP) for this Unit provides assessment and marking guidelines that exemplify the national standard for achievement. It is a valid, reliable and practicable assessment. Centres wishing to develop their own assessments should refer to the ASP to ensure a comparable standard. A list of existing ASPs is available to download from SQA's website (<http://www.sqa.org.uk/sqa/46233.2769.html>).

### **Equality and inclusion**

This Unit specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence.

Further advice can be found on our website [www.sqa.org.uk/assessmentarrangements](http://www.sqa.org.uk/assessmentarrangements).

### SQA Advanced Unit specification: Statement of standards

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Acceptable performance in this Unit will be the satisfactory achievement of the standards set out in this part of the Unit specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

#### Outcome 1

Produce a design concept to meet the specifications of a given brief.

##### Knowledge and/or Skills

- ◆ Vector graphics
- ◆ Use of lines, text, simple shapes, fills
- ◆ Use of modify tools, eg crop and rotate
- ◆ Working to a design brief

#### Outcome 2

Produce a completed design solution to a given brief.

##### Knowledge and/or Skills

- ◆ Vector graphics
- ◆ Bit-mapped graphics
- ◆ Computer graphics effects
- ◆ Complex shapes

#### Evidence Requirements for this Unit

##### Outcome 1

A learner's response can be judged to be satisfactory where evidence provided is sufficient to meet the requirements for each item by showing that the learner is able to:

- ◆ produce three concept sketches which meet an agreed design brief.
- ◆ produce three computer generated images from the concept sketches.

Evidence should be generated through assessment undertaken in controlled, supervised conditions. Assessment should be conducted under closed-book conditions and as such learners must not be allowed access to textbooks, handouts or notes.

##### Outcome 2

A learner's response can be judged to be satisfactory where evidence provided is sufficient to meet the requirements for each item by showing that the learner is able to:

- ◆ creatively and effectively produce a finished design to meet the requirements of the given design brief.
- ◆ state the reason(s) for the final design being chosen.

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Evidence should be generated through assessment undertaken in controlled, supervised conditions. Assessment should be conducted under closed-book conditions and as such learners must not be allowed access to textbooks, handouts or notes.

## **SQA Advanced Unit Support Notes**

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Unit Support Notes are offered as guidance and are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 40 hours.

### **Guidance on the content and context for this Unit**

This Unit has been written in order to allow learners to develop knowledge, understanding and skills in the following areas:

- 1 The operation of computer graphics software.
- 2 Creation of computer graphics.
- 3 Working to a design brief.
- 4 Vector/bit mapped graphics formats.

This Unit is at SCQF level 7 and may form part of a group award or be completed as a free-standing Unit.

In designing this Unit, the Unit writer has identified the range of topics that would be expected to be covered by lecturers. The writer has also given recommendations as to how much time should be spent on each Outcome assessment. This has been done to help lecturers decide what depth of treatment should be given to the topics attached to each of the Outcomes. Whilst it is not mandatory for centres to use this list of topics, it is recommended that they do so as the assessment exemplar pack for this Unit is based on the Knowledge and/or Skills and list of topics in each of the Outcomes.

A list of topics for each Outcome is given below. Lecturers are advised to study this list in conjunction with the assessment exemplar pack so that they can get a clear indication of the standard of achievement expected of learners in this Unit.

#### **Outcome 1**

Produce a design concept to meet the specifications of a given brief **(9 hours)**

The following topics are generic in nature but should be put into context by reference to the graphics software application package being used at the centre:

- ◆ Fill patterns
- ◆ Use of linear and curved elements
- ◆ Use of note clouds to clearly explain design concepts

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### Outcome 2

Produce a finished design solution to a given brief **(3 hours)**

The following topics are generic in nature but should be put into context by reference to the graphics software application package being used at the centre:

- ◆ Use of layout/drawing aids
- ◆ Reasons for final design choice could include:
  - Aesthetics
  - Effect works better
  - Printing advantages
  - Appeals to a target group

### Guidance on approaches to delivery of this Unit

It is intended that this Unit is presented at all times using the specialist application graphics software available at the centre. Appropriate technical and support material should be available to the learner.

In the delivery of this Unit, learners should be provided with the opportunity to gain as much 'hands on' experience as possible. Each learner should have access to a PC with the graphics software installed. This Unit provides the learners with the opportunity to work together towards the concept designs for Outcome 1.

### Guidance on approaches to assessment of this Unit

Evidence can be generated using different types of assessment. The following are suggestions only. There may be other methods that would be more suitable to learners.

Centres are reminded that prior verification of centre-devised assessments would help to ensure that the national standard is being met. Where learners experience a range of assessment methods, this helps them to develop different skills that should be transferable to work or further and higher education.

The assessments for all Outcomes in this Unit should be practical, ie the completion of a printable design. The final design is to be supported by a written element.

Outcome 1 and 2 should be assessed as separate assessments carried out at the end of the delivery of the Unit. Outcome 1 should last for nine hours and Outcome 2 for three hours. The assessment for both Outcomes should be carried out at the end of the Unit. This is at the discretion of the presenting centre.

Learners will be presented with a design brief. They will then be asked to produce three separate designs for that one brief. The designs should be presented to the lecturer firstly as sketches, before the learner produces the approved designs using a computer graphics package. The designs must make use of shapes and fill patterns and make use of manipulation tools (eg polygon, crop, weld and rotate).

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The assignment for Outcome 2 should involve the learner and lecturer reviewing the concept designs from Outcome 1 and agreeing on a design that has to be taken to a completed stage. This could be one of the existing concept ideas, or a mixture of elements from all three existing designs. The final design for Outcome 2 should contain complex shapes, make use of the effect tools and contain both bit mapped and vector graphics while still meet the given design brief.

To support the graphic design for Outcome 2, the learner must also create a written document explaining why the final design was chosen in preference to the other concept ideas and how it was developed following the design brief.

It is recommended that centres develop checklists to support the assessment requirements for each of the Knowledge and/or Skills items.

It should be noted that learners must achieve all the minimum evidence specified for each Outcome in order to pass the Unit.

An Assessment Support Pack (ASP) is available for this Unit.

### **Opportunities for e-assessment**

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or social software. Centres which wish to use e-assessment must ensure that the national standard is applied to all learner evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. The most up-to-date guidance on the use of e-assessment to support SQA's qualifications is available at [www.sqa.org.uk/e-assessment](http://www.sqa.org.uk/e-assessment).

### **Opportunities for developing Core and other essential skills**

Learners will be required as they undertake the Unit to analyse design concepts in depth and seek various types of solutions in a range of theoretical and practical situations. Checklists to support analytical evaluation of complex information accessed could be provided and might include criteria to ensure a check on the suitability for purpose and the needs of the proposed users. In planning designs to meet the practical requirements of the clients, such variables as available resources and appropriate media will need to be identified and the significance of each analysed before design approaches are selected. Developing the initial design ideas should further provide opportunities for enhancing problem solving skills to an advanced level. Evaluation which examines all stages of proposed solutions and their potential and actual impact will be on-going.

Learners will need to produce and present materials to a standard which would be acceptable in industry and appropriate for a professional audience. The need to develop efficient systems of recording, coding and storing outline information for ease of reference should be emphasised. Learners should develop skills in computerised record keeping and be made aware of the importance of saving materials and performing back-ups.

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Although skills in Written Communication are not formally assessed, learners should be expected to express essential ideas, information accurately and coherently, to use a formal structure and format. Use of software to check language, spelling, punctuation and syntax for accuracy is good practice.

### History of changes to Unit

Version	Description of change	Date

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**FURTHER INFORMATION:** Call SQA's Customer Contact Centre on 44 (0) 141 500 5030 or 0345 279 1000. Alternatively, complete our [Centre Feedback Form](#).

### General information for learners

#### Unit title: CAD: Graphical Design (SCQF level 7)

This section will help you decide whether this is the Unit for you by explaining what the Unit is about, what you should know or be able to do before you start, what you will need to do during the Unit and opportunities for further learning and employment.

This Unit has been designed to provide you with the knowledge and skills that will enable you to understand the basic concepts of computer aided graphics.

You will also learn about the advantages and disadvantages of both vector and bit-mapped graphics formats.

This Unit will also allow you to develop practical skills that will enable you to create rough and final designs while working to a pre-determined brief.

The formal assessment for this Unit is practical although there is a small written assessment requirement.

The actual assessment times are as follows:

Outcome 1	Practical	9 hours
Outcome 2	Written and practical	3 hours

Your practical skills will be assessed by your being asked to satisfactorily create three rough designs and one final design taken to a completed stage.

Outcomes 1 and 2 will not be attempted until all teaching has been completed.